

# **State Board of Education Meeting**

## **July 28, 2006**

### **1) Why did only approximately one-half of the 10<sup>th</sup> graders meet the mathematics standard?**

Possible Explanations:

- What we test does not align with what we teach.
- Without formative assessments and ongoing data analysis it is difficult to (a) predict student performance, (b) adjust instruction, and (c) provide targeted support to students.

What Prevents Us From Knowing the Answer Definitively:

- Without a common state-wide math program, analysis has to occur district by district, school by school, and in some cases even classroom by classroom.
- Even if this level of analysis took place – and it is not taking place in a comprehensive and sophisticated way across the state – it is unlikely we would identify a sharply defined state-level answer, but instead answers that are responsive to the idiosyncratic nature of our situations.
- Again, the paucity of common student performance data makes it difficult to determine the level of student understanding and skill development. To this point in time, the fourth, seventh and tenth grade tests have provided the only state-wide picture of student performance.

In summary, we know that kids don't do well *when* they don't do well, but we don't have information that allows us to analyze performance over time, adjust instruction and support based on those analyses, and then predict performance on the WASL.

### **2) What short and longer-term actions need to be taken to increase mathematics achievement?**

Analyze all the testing demands placed on students to determine the skills and knowledge required:

- WASL
- ITBS, CAT, and Other Standardized Norm-Referenced Tests
- PLAN and ACT
- PSAT and SAT
- COMPASS and Other Community College and University Placement Tests
- Advanced Placement and International Baccalaureate Examinations
- NAEP
- TIMSS and Other International Tests

Consult with community college and university faculty to determine their expectations for entry level students. - *Partnership (organization of K-16)*

Examine other sources of information such as Achieve's K – 8 Mathematics Benchmarks and Standards for Success' Math Standards.

Based on the sources of information listed above, create a skills and content alignment map that addresses what we think students should learn kindergarten through twelfth grade.

Using the best experts we can find, create a “complete” K – 12 web-based curriculum that matches the skills and content identified above. “Complete” in this context means units, lessons, formative assessments, scoring guides, samples of student work – all the layers of information that inform instruction.

Allow the curriculum to be used, free of charge, to any school or district that wishes to use it.

Provide staff development that supports the delivery of the curriculum, grounded in the specific units and lessons of the curriculum.

Study the results of formative assessments – provide an online reporting system to gather and analyze data – to determine the efficacy of the curriculum, instruction, and assessments.

To the extent that formative assessments do not accomplish the following, create tests that measure (and define) the essential knowledge and skills of all courses, K – 12.

Study the results of the standardized assessments with an eye on the predictive power of the formative assessments and course tests.

Adjust the curriculum, assessments, and staff development as needed and in an ongoing process to improve the alignment of all components and the performance of students.

Over time, require four years of mathematics, i.e., mathematics in the senior year. Aim at “the course beyond Algebra II” as the standard for all students. Measure the effectiveness of the program by its end results, such as the placement of students in college level math classes and other life-after-high-school measurements.

Submitted by Michael Riley, Superintendent, Bellevue School District